IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
Haruo Kogane et al.	:	
Serial No.: To be assigned	:	Art Unit: To be assigned
Filed: Herewith	:	Examiner: To be assigned
For: NETWORK SURVEILLANCE VIDEO CAMERA SYSTEM	:	Atty Docket: 20402/0626

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-captioned case as follows.

IN THE SPECIFICATION

On page 1, before the first sentence, insert the following section:

-- CROSS REFERENCE TO RELATED APPLICATION

The present application is a divisional of U.S. patent application Serial No. 09/389,234, filed September 3, 1999, now allowed.--

Please amend the specification as shown on the attached sheets. A "clean" copy of the affected pages is attached hereto.

IN THE CLAIMS

Please cancel claims 2-4 and 7-8, and amend claim 1 to read as follows:

1. (Amended) A network surveillance video camera system using a network, said system comprising:

a plurality of video camera units, each having a different address and generating video data, each including motion detection means for detecting a motion of an image from said video data and communication means for communicating with said network to transmit said video data related to an output of said motion detection means whereby only video data representing motion is transmitted;

storing means corresponding to each of said video camera units, having a different address and communication means for communicating with said network for receiving and storing said video data from said video camera units through said network;

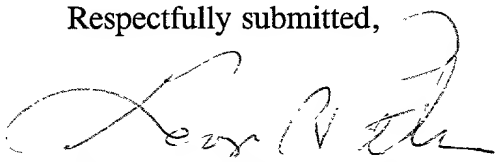
displaying means, having a different address and communication means for communicating with said network for displaying said video data from said storing means and said video camera units; and

a control server coupled to said network having a different address for automatically communicating with said network to control said addresses of said video camera units, said storing means, and said display means.

REMARKS

Claims 1, 5, 6, 9, and 10 are now pending in this application. Original claims 2-4, 7, and 8 have been allowed in parent application Serial No. 09/389,234, and this amendment deletes those claims from this divisional application.

Respectfully submitted,



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AMENDMENTS TO THE SPECIFICATION

Page 11, paragraph 1:

The camera unit 1b further includes a traffic detection circuit 35 responsive to the TCP/IP circuit 33 and the alarm monitor circuit 30 for detecting traffic of the network 2. When the amount of traffic is greater than a reference value, the traffic detection circuit 35 controls the server 32 to transmit only the necessary image of the video data regarding the alarm from the memory 31. That is, when the amount of traffic is greater than the reference value, the server 32 transmits the video data from the memory 31 when there is any of sensor signals or the motion detection signal to the network 2. When the amount of traffic is less than the reference value, the traffic detection circuit 35 controls the server 32 to successively transmit the image of the video data. Moreover, under normal conditions, the sound data is transmitted with the video data substantially at the same time. However, if the amount of the traffic is greater than the reference value, the traffic detection circuit 35 may control the server 32 to transmit only the sound data and to inhibit transmission of the video data. On the other hand, the alarm data is separately transmitted by the TCP/IP circuit 33. Then, the control server 5 and the display terminal 4 are immediately supplied with the alarm data and image of the video data regarding the alarm is surely transmitted. Then, the control server 5 increases the priority of the video camera transmitting the alarm data to suppress communication by other units coupled to the network to reduce the traffic. This provides for successively transmitting the video data from the camera unit 1 transmitting the alarm to the display terminal 4.

Page 12, paragraph 2, - page 14, paragraph 1:

Fig. 4 is a block diagram of the control unit 11 of this embodiment. The control unit 11 includes substantially the same circuits as the video camera 1b except the lens unit 21, the CCD imager 22, the AGC circuit 23, the a/d converter 34, and the video processing circuit 27. Moreover, the control unit 11 further includes a memory 58 for storing the video data and a thinning control circuit 59 for thinning the video data. The

memory 58 stores the video data from the camera 70 in response to the motion detection signal from the motion detection circuit 10 in the camera 70. The thinning circuit 59 thins the video data in response to one of the sensor signals from the sensor signal input circuit 34. The thinning control circuit 59 generates thinned video signal by processing such that a size of aperture is changed. That is, a size of a block (pixel) unit of the video signal is enlarged, so that the JPEG encoder generates a lower amount of video data by compression.

The video signal and a motion detection signal from the camera 71 are supplied to a control box 12 which further receives sensor signals. The control box 12 includes an alarm monitor circuit 45 for generating alarm data in response to the motion detection signal and sensor signals. the video signal and the alarm data is supplied to an alarm image server 13 which temporarily stores the video signal and immediately transmits the alarm data to the network 2.

Fig. 5 is a block diagram of the alarm image server 13 of this embodiment. The alarm image server 13 includes substantially the same circuits as the video camera 1b except the lens unit 21, the CCD imager 22, the AGC circuit 23, the a/d converter 24, and the video processing circuit 27. Moreover, the alarm image server 13 temporarily stores the video data obtained from the video signal from the video camera 71 through the control box 12 and transmits the video data from the memory 31 with observing the traffic of the network 2.

The control server 5 includes a communication circuit 41, a control circuit 160, an address table 52, a location table 53, a data base 47, a priority table 161 and a keyboard 46. When the control server 5 receives a request for assigning an address from one of camera units 1, the control server 5 assigns an address for the camera unit 1 and generates the address table 52 in response to a request from one of camera units 1. If another camera unit 1 transmits the request for assigning the address to the control server 5, the control server assigns the address and renews the address table 52. The control server transmits the address table to the data storing terminal 3 and the display terminal 4 to provide address table 152 in the data storing terminal 3 and the display terminal 4.

Page 15, paragraph 2:

The control server 5 includes the priority table 161 as mentioned above. The control server 5 increases the priority of the video camera transmitting the alarm data to suppress communication by other units coupled to the network to reduce the traffic in response to the alarm data. This provides for successively transmitting the video data from the camera unit 1 transmitting the alarm to the display terminal 4.

Page 18, paragraph 1:

The control server 5 further includes a name table representing the relationship between addresses and the name of camera units 1 to dynamically assign the physical address every time power on occurs. That is, when the control server 5 is turned on, the control server 5 broadcasts a response request. Every camera unit 1, data storing terminal 3, and display terminal 4 responds to this and successively transmits domain names. The control server 5 assigns the physical addresses managed by the control server 5 to the camera units 1, the data storing terminal 3, and the display terminal 4. That is, the control server 5 stores the domain names with respect to physical address as the name table 72. Then, the control server 5 informs the camera units 1, the data storing terminal 3, and the display terminal 4 of the physical addresses. Then, each of camera units 1 can use both the domain name and the physical address. As mentioned above, the data storing terminal 3 and the display terminal 4 monitor the destination address transmitted through the network and acquires the video data and other data if the address is within the network surveillance video camera system. Moreover, the operator can command which image is to be displayed. That is, the operator operates the keyboard 46 to display the image form one of the camera units 1 by inputting the domain name of the camera unit 1. Moreover, the operator can reproduce the image from the data storing terminal 3 by operating the keyboard 46.

AMENDMENTS TO THE CLAIMS

1. (Amended) A network surveillance video camera system using a network, said system comprising:

a plurality of video camera units, each having a different address and generating video data, each including motion detection means for detecting a motion of an image from said video data and communication means for communicating with said network to transmit said video data [and] related to an output of said motion detection means whereby only video data representing motion is transmitted;

storing means corresponding to each of said video camera units, having a different address and communication means for communicating with said network for receiving and storing said video data from said video camera units through said network;

displaying means, having a different address and communication means for communicating with said network for displaying said video data from said storing means and said video camera units; and

a control server coupled to said network having a different address for automatically communicating with said network to control said addresses of said video camera units, said storing means, and said display means.

and supplying the sound signal to a sound signal processing circuit 55 which process the sound signal to generate sound data supplied to the memory 31 to store the sound data.

The camera unit 1b further includes a traffic detection circuit 35 responsive to the TCP/IP circuit 33 and the alarm monitor circuit 30 for detecting traffic of the network 2. When the amount of traffic is greater than a reference value, the traffic detection circuit 35 controls the server 32 to transmit only the necessary image of the video data regarding the alarm from the memory 31. That is, when the amount of traffic is greater than the reference value, the server 32 transmits the video data from the memory 31 when there is any of sensor signals or the motion detection signal to the network 2. When the amount of traffic is less than the reference value, the traffic detection circuit 35 controls the server 32 to ~~transmit~~ successively transmit the image of the video data. Moreover, ~~in the~~ Under normal condition, the sound data is transmitted with the video data substantially at the same time. However, if the amount of the traffic is greater than the reference value, the traffic detection circuit 35 may control the server 32 to transmit only the sound data and to inhibit transmission of the video data. On the other hand, the alarm data is separately transmitted by the TCP/IP circuit 33. Then, the control server 5 and the

display terminal 4 are immediately supplied with the alarm data and image of the video data regarding the alarm is surely transmitted. Then, the control server 5 increases the priority of the video camera transmitting the alarm data to suppress communication by other units coupled to the network to reduce the traffic. This provides for successively transmitting the video data from the camera unit 1 transmitting the alarm to the display terminal 4.

The camera unit 1b further includes a comparator 56 and a switch 57. The comparator 56 compares the sound level of the sound data with a reference sound value. When the sound level is greater than the reference sound value, the alarm monitor circuit 30 generates the alarm data to transmit the alarm data to the network 2 if the switch 57 is closed. If the switch 57 is open, the alarm data indicative the presence of a loud sound is not generated.

Fig. 4 is a block diagram of the control unit 11 of this embodiment. The control unit 11 includes substantially the same circuits as the video camera 1b except the lens unit 21, the CCD imager 22, the AGC circuit 23, the a/d converter 24, and the video processing circuit 27. Moreover, the control unit 11 further includes a memory 58 for storing the video data and a thinning control circuit 59 for thinning the video data. The memory 58 stores the video data from the camera 70 in response to the motion

detection signal from the motion detection circuit 10 in the camera 70. The thinning circuit 59 thins the video data in response to one of the sensor signals from the sensor signal input circuit 34. The thinning control circuit 59 generates thinned video signal by processing such that a size of aperture is changed. That is, a size of a block (pixel) unit of the video signal is enlarged, so that the JPEG encoder generates a lower amount of video data by compression.

The video signal and a motion detection signal from the camera 71 are supplied to a control box 12 which further receives sensor signals. The control box 12 includes an alarm monitor circuit 45 for generating alarm data in response to the motion detection signal and sensor signals. The video signal and the alarm data is supplied to an alarm image sever 13 which temporally stores the video signal and immediately transmits the alarm data to the network 2.

Fig. 5 is a block diagram of the alarm image server 13 of this embodiment. The alarm image server 13 includes substantially the same circuits as the video camera 1b except the lens unit 21, the CCD imager 22, the AGC circuit 23, the a/d converter 24, and the video processing circuit 27. Moreover, the alarm image server 13 temporally stores the video data obtained from the video signal from the

video camera 71 through the control box 12 and transmits the video data from the memory 31 with observing the traffic of the network 2.

The control server 5 includes a communication circuit 41, a control circuit 160, an address table 52, a location table 53, a data base 47, a priority table 161 and a keyboard 46. When the control server 5 receives a request for assigning an address from one of camera units 1, the control server 5 assigns an address for the camera unit 1 and generates the address table 52 in response to a request from one of camera units 1. If another camera unit 1 transmits the request for assigning the address to the control server 5, the control server assigns the address and renews the address table 52. The control server transmits the address table to the data storing terminal 3 and the display terminal 4 to provide address table 152 in the data storing terminal 3 and the display terminal 4.

The control server 5 further includes a location table 53 indicative of relation between the addresses of the camera units 1 and the locations where the camera units 1 are installed. The control server 5 further includes a data base for storing sets of the video data from the camera units 1 at occurrence of the alarm data and the alarm type data, and the time data, the position data of the pivoting unit 43, the address data, and the location

data of the camera unit 1. The control server 5 receives a keyword from a keyboard 46 to search the corresponding set of data in the data base 47. Moreover, if the operator judges an alarm is an error, the operator operates the keyboard 46 to store mark data with the corresponding set of data to make the set of data indicating alarming not to be searched.

When the control server 5 receives the alarm data, the control server 5 receives the alarm type data, the time data, the position data, and the address data and reads the location data from the location table 53 with the address data and transmits the alarm data, the alarm type data, the time data, the position data, the address data, and the location data to the display terminal 4 to display the data.

The control server 5 includes the priority table 161 as mentioned above, The control server 5 increases the priority of the video camera transmitting the alarm data to suppress communication by other units coupled to the network to reduce the traffic in response to the alarm data. This provides for successively transmitting the video data from the camera unit 1 transmitting the alarm to the display terminal 4.

The data storing terminal 3 includes a communication circuit 41, a network monitoring circuit 51, an address table 152, and a memory 50. The network monitoring circuit

shown in Fig. 6B.

The control server 5 further includes a name table representing the relation between addresses and the name of camera units 1 to dynamically assign the physical address every time power on occurs. That is, when the control server 5 is turned on, the control server 5 broadcasts a response request. Every camera units 1, the data storing terminal 3, and the display terminal 4 responds to this and successively transmits domain names. The control server 5 assigns the physical addresses managed by the control server 5 to the camera units 1, the data storing terminal 3, and the display terminal 4. That is, the control server 5 stores the domain names with respect to physical address as the name table 72. Then, the control server 5 informs the camera units 1, the data storing terminal 3, and the display terminal 4 of the physical addresses. Then, each of camera units 1 can use both of the domain name and the physical address. As mentioned above, the data storing terminal 3 and the display terminal 4 monitors the destination address transmitted through the network and acquires the video data and other data if the address is within the network surveillance video camera system. Moreover, the operator can command which image is to be displayed. That is, the operator operates the keyboard 46 to display the image from one of the camera units 1 by